

AMENDMENTS TO THE CLAIMS

1. (Original) Single-phase, liquid compositions (solutions) comprising

- at least one organic semiconductor which comprises at least one high-molecular-weight component,
- and at least one organic solvent A,
- and at least one organic solvent B,
- and at least one organic solvent C,

characterised in that

- solvent A is a good solvent for the organic semiconductor,
- solvent B is a good solvent for the organic semiconductor,
- solvent C is a poor solvent for the organic semiconductor and
- the following applies to the boiling points (b.p.) of solvents A, B and C:
 $\text{b.p.}(A) < \text{b.p.}(C) < \text{b.p.}(B)$, and/or to the respective partial vapour pressures (p) at the temperature of the coating methods of solvents A, B and C: $p(A) > p(C) > p(B)$.

2. (Original) Solutions according to Claim 1, characterised in that the organic semiconductor is soluble in the pure solvent A or in the pure solvent B in a concentration of at least 5 g/l at room temperature.

3. (Previously presented) Solutions according to claim 1, characterised in that the solubility of the organic semiconductor in the pure solvent C at room temperature is less than 0.3 g/l.

4. (Previously presented) Solutions according to claim 1, characterised in that the organic semiconductor is employed as pure component.

5. (Previously presented) Solutions according to claim 1, characterised in that the organic semiconductor is employed as a mixture of two or more components.

6. (Original) Solutions according to Claim 5, characterised in that one or more organic non-conductors are used as matrix.
7. (Previously presented) Solutions according to claim 1, characterised in that the high-molecular-weight component has a molecular weight M_w of greater than 50,000 g/mol.
8. (Previously presented) Solutions according to claim 1, characterised in that the polymeric organic semiconductors employed are substituted poly-p-arylenevinylenes (PAVs), polyfluorenes (PFs), polyspirobifluorenes (PSFs), poly-para-phenylenes (PPPs) or -biphenylenes, polydihydrophenanthrenes (PDHPs), cis- and trans-polyindenofluorenes (PIFs), polythiophenes (PTs), polypyridines (PPys), copolymers which contain structural units from two or more of the above-mentioned classes, generally conjugated polymers, polyvinylcarbazoles (PVKs), polytriarylaminines and/or soluble polymers containing phosphorescent units, which are soluble in organic solvents.
9. (Previously presented) Solutions according to claim 1, characterised in that non-conducting polymers (matrix polymers) which comprise low-molecular-weight, oligomeric, dendritic or polymeric organic and/or organometallic semiconductors are used.
10. (Previously presented) Solutions according to claim 1, characterised in that the boiling point of all three solvents A, B and C is greater than 120°C.
11. (Previously presented) Solutions according to claim 1, characterised in that the boiling point of all three solvents A, B and C is less than 300°C.
12. (Previously presented) Solutions according to claim 1, characterised in that the difference between the boiling points of solvent A and solvent C is greater than 10 K.
13. (Previously presented) Solutions according to claim 1, characterised in that the difference between the boiling points of solvent C and solvent B is greater than 10 K.
14. (Previously presented) Solutions according to claim 1, characterised in that the proportion of solvent A is 10 to 80% by vol., the proportion of solvent B is 0.5 to 40% by vol. and the proportion of solvent C is 10 to 90% by vol.
15. (Original) Solutions according to Claim 14, characterised in that the proportion of solvent A is 25 to 60% by vol., the proportion of solvent B is 2 to 20% by vol. and the proportion of solvent C is 30 to 70% by vol.

16. (Previously presented) Solutions according to claim 1, characterised in that other good and/or poor solvents are used in addition to solvents A, B and C.
17. (Previously presented) Solutions according to claim 1, characterised in that solvents A and/or B used are mono- or polysubstituted aromatic solvents, formic acid derivatives, N-alkylpyrrolidones or high-boiling ethers.
18. (Original) Solutions according to Claim 17, characterised in that solvents A and/or B are one or more solvents selected from 3-fluorobenzotrifluoride, benzotrifluoride, dioxane, trifluoromethoxybenzene, 4-fluorobenzotrifluoride, 3-fluoropyridine, toluene, 2-fluorotoluene, 2-fluorobenzotrifluoride, 3-fluorotoluene, pyridine, 4-fluorotoluene, 2,5-difluorotoluene, 1-chloro-2,4-difluorobenzene, 2-fluoropyridine, 3-chlorofluorobenzene, 1-chloro-2,5-difluorobenzene, 4-chlorofluorobenzene, chlorobenzene, 2-chlorofluorobenzene, p-xylene, m-xylene, o-xylene, 2,6-lutidine, 2-fluoro-m-xylene, 3-fluoro-o-xylene, 2-chlorobenzotrifluoride, dimethylformamide, 2-chloro-6-fluorotoluene, 2-fluoroanisole, anisole, 2,3-dimethylpyrazine, bromobenzene, 4-fluoroanisole, 3-fluoroanisole, 3-trifluoromethylanisole, 2-methylanisole, phenetol, benzodioxole, 4-methylanisole, 3-methylanisole, 4-fluoro-3-methylanisole, 1,2-dichlorobenzene, 2-fluorobenzonitrile, 4-fluoroveratrol, 2,6-dimethylanisole, aniline, 3-fluorobenzonitrile, 2,5-dimethylanisole, 2,4-dimethylanisole, benzonitrile, 3,5-dimethylanisole, N,N-dimethylaniline, 1-fluoro-3,5-dimethoxybenzene, phenyl acetate, N-methylaniline, methyl benzoate, N-methylpyrrolidone, 3,4-dimethylanisole, acetophenone, o-tolunitrile, 4-tert-butylanisole, veratrol, ethyl benzoate, N,N-diethylaniline, propyl benzoate, 1-methylnaphthalene, 3,5-dimethoxytoluene, butyl benzoate, 2-methylbiphenyl, dimethylnaphthalene, 2-phenylpyridine or 2,2'-bitolyl.
19. (Previously presented) Solutions according to claim 1, characterised in that the solvents C used are straight-chain, branched or cyclic higher alkanes, preferably having seven or more C atoms, terpenes, (cyclo)aliphatic alcohols, ketones, carboxylic acid esters or mono- or polysubstituted aromatic solvents which are substituted by long alkyl or alkoxy substituents having 4 or more C atoms, higher alcohols having more than 4 C atoms, glycols or ethers thereof.
20. (Original) Solutions according to Claim 19, characterised in that at least one solvent C is selected from methylcyclohexane, 3-pentanol, 1,4-dimethylcyclohexane, ethylene glycol monomethyl ether, 1,2-dimethylcyclohexane, octane, 2-hexanol, 1-pentanol, 1,2,4-

trimethylcyclohexane, 4-heptanone, 3-heptanone, 2-heptanone, nonane, cyclohexanone, 3-heptanol, 1-hexanol, 2-heptanol, diglyme, butyl butyrate, tert-butylbenzene, decane, 1-heptanol, 2-octanol, butylcyclohexane, 2-ethyl-1-hexanol, decalin, propylene glycol, dimethyl sulfoxide, 3,3,5-trimethylcyclohexanone, glycol, 3,7-dimethyl-1-octanol, 3,7-dimethyl-3-octanol, dimethyl succinate, tert-butyl-m-xylene, benzyl alcohol, DBE, dodecane, diethyl succinate, triglyme, bicyclohexyl, dimethyl adipate, 1-decanol or 2-pyrrolidone.

21. (Currently Amended) ~~Use of solutions according to claim 1,~~ A process for the production of layers of the organic semiconductors on a substrate which comprises utilizing the solution according to claim 1.

22. (Previously presented) Process for the production of organic semiconductor layers on a substrate, characterised in that a solution according to claim 1, is processed by means of a printing method.

23. (Original) Process according to Claim 22, characterised in that the printing method is an ink-jet printing (IJP) method.

24. (Previously presented) Layers of organic semiconductors, characterised in that they are produced using ~~a solution~~ the solution according to claim 1.

25. (Original) Polymeric light-emitting diodes (PLEDs), organic field-effect transistors (O-FETs), organic thin-film transistors (O-TFTs), organic integrated circuits (O-ICs), organic solar cells (O-SCs) or organic laser diodes (O-lasers) comprising at least one layer according to Claim 24.

26. (Previously presented) Layers of organic semiconductors, characterised in that they are produced by means of the printing method according to Claim 22.